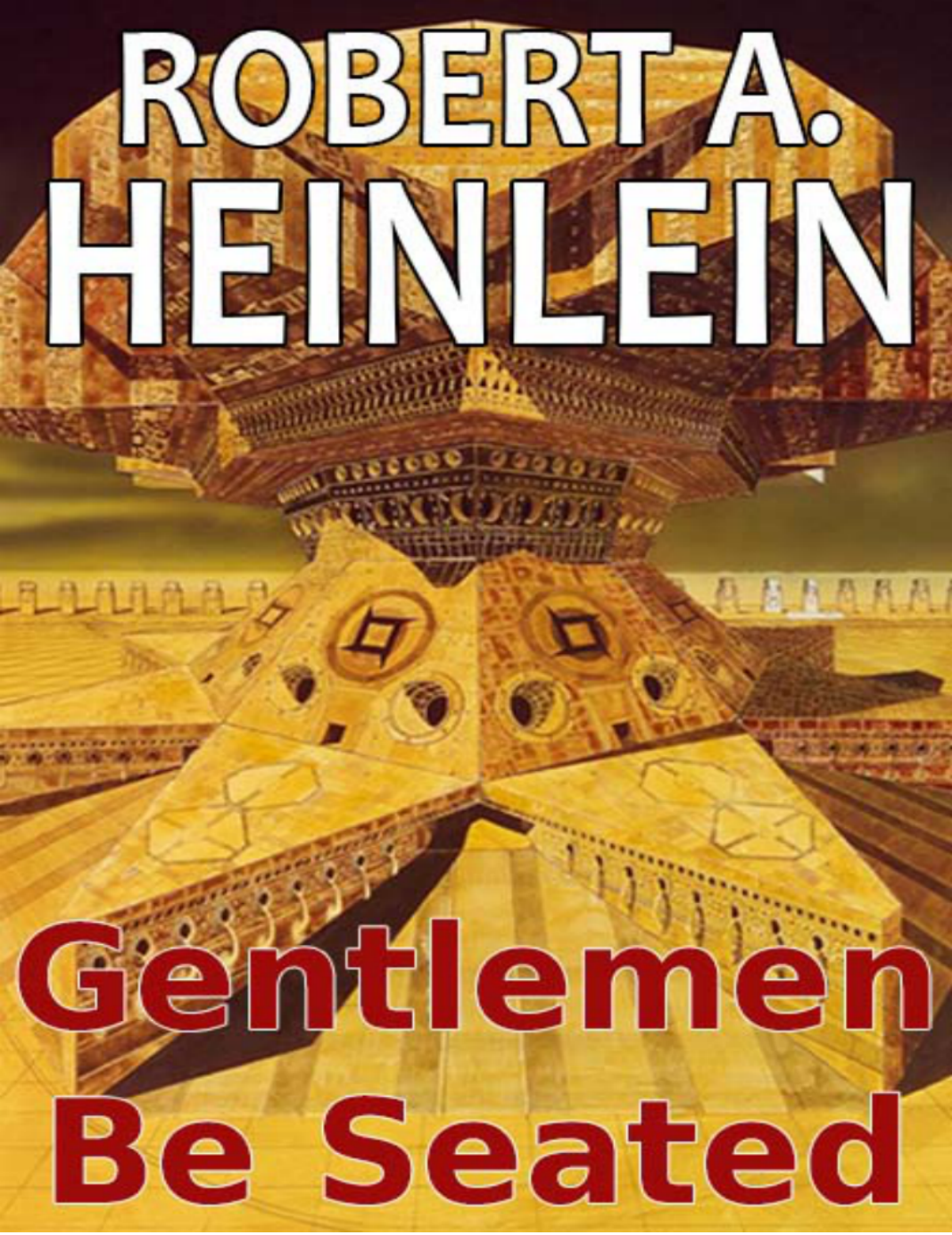
ROBERT A.
HEINLEIN
Gentlemen
Be Seated

Gentlemen, Be Seated

IT TAKES both agoraphobes and claustrophobes to colonize the Moon. Or make it agoraphiles and claustrophiles, for the men who go out into space had better not have phobias. If anything on a planet, in a planet, or in the empty reaches around the planets can frighten a man, he should stick to Mother Earth. A man who would make his living away from terra firma must be willing to be shut up in a cramped spaceship, knowing that it may become his coffin, and yet he must be undismayed by the wide-open spaces of space itself. Spacemen-men who work in space, pilots and jetmen and astrogators and such-are men who like a few million miles of elbow room. On the other hand the Moon colonists need to be the sort who feel cozy burrowing around underground like so many pesky moles.

On my second trip to Luna City I went over to Richardson Observatory both to see the Big Eye and to pick up a story to pay for my vacation. I flashed my Journalists' Guild card, sweet-talked a bit, and ended with the paymaster showing me around. We went out the north tunnel, which was then being bored to the site of the projected coronascope. It was a dull trip-climb on a scooter, ride down a completely featureless tunnel, climb off and go through an airlock, get on another scooter and do it all over again. Mr. Knowles filled in with sales talk. "This is temporary," he explained. "When we get the second tunnel dug, we'll cross-connect, take out the airlocks, put a northbound slidewalk in this one, a southbound slidewalk in the other one, and you'll make the trip in less than three minutes. Just like Luna City-or Manhattan." "Why not take out the airlocks now?" I asked, as we entered another airlock-about the seventh. "So far, the pressure is the same on each side of each lock." Knowles looked at me quizzically. "You wouldn't take advantage of a peculiarity of this planet just to work up a sensational feature story?" I was irked. "Look here," I told him. "I'm as reliable as the next word-mechanic, but if something is not kosher about this project let's go back right now and forget it. I won't hold still for censorship." "Take it easy, Jack," he said mildly-it was the first time he had used my first name; I noted it and discounted it. "Nobody's going to censor you. We're glad to cooperate with you fellows, but the Moon's had too much bad publicity now-publicity it didn't deserve." I didn't say anything. "Every engineering job has its own hazards," he insisted, "and its advantages, too. Our men don't get malaria and they don't have to watch out for rattlesnakes. I can show you figures that prove it's safer to be a sandhog in the Moon than it is to be a file clerk in Des Moines-all things considered. For example, we rarely have any broken bones in the Moon; the gravity is so low-while

that Des Moines file clerk takes his life in his hands every time he steps in or out of his bathtub." "Okay, okay," I interrupted, "so the place is safe. What's the catch?" "It is safe. Not company figures, mind you, nor Luna City Chamber of Commerce, but Lloyd's of London." "So you keep unnecessary airlocks. Why?" He hesitated before he answered, "Quakes." Quakes. Earthquakes-moonquakes, I mean. I glanced at the curving walls sliding past and I wished I were in Des Moines. Nobody wants to be buried alive, but to have it happen in the Moon-why, you wouldn't stand a chance. No matter how quick they got to you, your lungs would be ruptured. No air. "They don't happen very often," Knowles went on, "but we have to be prepared. Remember, the Earth is eighty times the mass of the Moon, so the tidal stresses here are eighty times as great as the Moon's effect on Earth tides." "Come again," I said. "There isn't any water on the Moon. How can there be tides?" "You don't have to have water to have tidal stresses. Don't worry about it; just accept it. What you get is unbalanced stresses. They can cause quakes." I nodded. "I see. Since everything in the Moon has to be sealed airtight, you've got to watch out for quakes. These airlocks are to confine your losses." I started visualizing myself as one of the losses. "Yes and no. The airlocks would limit an accident all right, if there was one-which there won't be-this place is safe. Primarily they let us work on a section of the tunnel at no pressure without disturbing the rest of it. But they are more than that; each one is a temporary expansion joint. You can tie a compact structure together and let it ride out a quake, but a thing as long as this tunnel has to give, or it will spring a leak. A flexible seal is hard to accomplish in the Moon." "What's wrong with rubber?" I demanded. I was feeling jumpy enough to be argumentative. "I've got a ground-car back home with two hundred thousand miles on it, yet I've never touched the tires since they were sealed up in Detroit." Knowles sighed. "I should have brought one of the engineers along, Jack. The volatiles that keep rubbers soft tend to boil away in vacuum and the stuff gets stiff. Same for the flexible plastics. When you expose them to low temperature as well they get brittle as eggshells." The scooter stopped as Knowles was speaking and we got off just in time to meet half a dozen men coming out of the next airlock. They were wearing spacesuits, or, more properly, pressure suits, for they had hose connections instead of oxygen bottles, and no sun visors. Their helmets were thrown back and each man had his head pushed through the opened zipper in the front of his suit, giving him a curiously two headed look. Knowles called out, "Hey, Konski!" One of the men turned around. He must have been six feet two and fat for his size. I guessed him at three hundred pounds, earthside. "It's Mr. Knowles," he said happily. "Don't tell me I've gotten a raise." "You're making too

much money now, Fatso. Shake hands with Jack Arnold. Jack, this is Fatso Konski-the best sandhog in four planets." "Only four?" inquired Konski. He slid his right arm out of his suit and stuck his bare hand into mine. I said I was glad to meet him and tried to get my hand back before he mangled It. "Jack Arnold wants to see how you seal these tunnels," Knowles went on. "Come along with us." Konski stared at the overhead. "Well, now that you mention it, Mr. Knowles, I've just finished my shift." Knowles said, "Fatso, you're a money grubber and inhospitable as well. Okay-time-and-a-half." Konski turned and started unsealing the airlock. The tunnel beyond looked much the same as the section we had left except that there were no scooter tracks and the lights were temporary, rigged on extensions. A couple of hundred feet away the tunnel was blocked by a bulkhead with a circular door in it. The fat man followed my glance. "That's the movable lock," he explained. "No air beyond it. We excavate just ahead of it." "Can I see where you've been digging?" "Not without we go back and get you a suit." I shook my head. There were perhaps a dozen bladder-like objects in the tunnel, the size and shape of toy balloons. They seemed to displace exactly their own weight of air; they floated without displaying much tendency to rise or settle. Konski batted one out of his way and answered me before I could ask. "This piece of tunnel was pressurized today," he told me. "These tag-alongs search out stray leaks. They're sticky inside. They get sucked up against a leak, break, and the goo gets sucked in, freezes and seals the leak." "Is that a permanent repair?" I wanted to know. "Are you kidding? It just shows the follow-up man where to weld." "Show him a flexible joint," Knowles directed. "Coming up." We paused half-way down the tunnel and Konski pointed to a ring segment that ran completely around the tubular tunnel. "We put in a flex joint every hundred feet. It's glass cloth, gasketed onto the two steel sections it joins. Gives the tunnel a certain amount of springiness." "Glass cloth? To make an airtight seal?" I objected. "The cloth doesn't seal; it's for strength. You got ten layers of cloth, with a silicone grease spread between the layers. It gradually goes bad, from the outside in, but it'll hold five years or more before you have to put on another coat." I asked Konski how he liked his job, thinking I might get some story. He shrugged. "It's all right. Nothing to it. Only one atmosphere of pressure. Now you take when I was working under the Hudson-" "And getting paid a tenth of what you get here," put in Knowles. "Mr. Knowles, you grieve me," Konski protested. "It ain't the money; it's the art of the matter. Take Venus. They pay as well on Venus and a man has to be on his toes. The muck is so loose you have to freeze it. It takes real caisson men to work there. Half of these punks here are just miners; a case of the bends would scare 'em silly." "Tell him why you left Venus, Fatso."

Konski expressed dignity. "Shall we examine the movable shield, gentlemen?" he asked. We puttered around a while longer and I was ready to go back. There wasn't much to see, and the more I saw of the place the less I liked it. Konski was undogging the door of the airlock leading back when something happened. I was down on my hands and knees and the place was pitch dark. Maybe I screamed-I don't know. There was a ringing in my ears. I tried to get up and then stayed where I was. It was the darkest dark I ever saw, complete blackness. I thought I was blind. A torchlight beam cut through it, picked me out, and then moved on. "What was it?" I shouted. "What happened? Was it a quake?" "Stop yelling," Konski's voice answered me casually. "That was no quake, it was some sort of explosion. Mr. Knowles-you all right?" "I guess so." He gasped for breath. "What happened?" "Dunno. Let's look around a bit." Konski stood up and poked his beam around the tunnel, whistling softly. His light was the sort that has to be pumped; it flickered. "Looks tight, but I hear-Oh, oh! Sister!" His beam was focused on a part of the flexible joint, near the floor. The "tag-along" balloons were gathering at this spot. Three were already there; others were drifting in slowly. As we watched, one of them burst and collapsed in a sticky mass that marked the leak. The hole sucked up the burst balloon and began to hiss. Another rolled onto the spot, joggled about a bit, then it, too, burst. It took a little longer this time for the leak to absorb and swallow the gummy mass. Konski passed me the light. "Keep pumping it, kid." He shrugged his right arm out of the suit and placed his bare hand over the spot where, at that moment, a third bladder burst. "How about it, Fats?" Mr. Knowles demanded. "Couldn't say. Feels like a hole as big as my thumb. Sucks like the devil." "How could you get a hole like that?" "Search me. Poked through from the outside, maybe." "You got the leak checked?" "I think so. Go back and check the gage. Jack, give him the light." Knowles trotted back to the airlock. Presently he sang out, "Pressure steady!" "Can you read the vernier?" Konski called to him. "Sure. Steady by the vernier." "How much we lose?" "Not more than a pound or two. What was the pressure before?" "Earth-normal." "Lost a pound four tenths, then." "Not bad. Keep on going, Mr. Knowles. There's a tool kit just beyond the lock in the next section. Bring me back a number three patch, or bigger." "Right." We heard the door open and clang shut, and we were again in total darkness. I must have made some sound for Konski told me to keep my chin up. Presently we heard the door, and the blessed light shone out again. "Got it?" said Konski. "No, Fatso. No . . ." Knowles' voice was shaking. "There's no air on the other side. The other door wouldn't open." "Jammed, maybe?" "No, I checked the manometer. There's no pressure in the next section." Konski whistled again. "Looks like we'll wait till they come

for us. In that case-- Keep the light on me, Mr. Knowles. Jack, help me out of this suit." "What are you planning to do?" "If I can't get a patch, I got to make one, Mr. Knowles. This suit is the only thing around." I started to help him-a clumsy job since he had to keep his hand on the leak. "You can stuff my shirt in the hole," Knowles suggested. "I'd as soon bail water with a fork. It's got to be the suit; there's nothing else around that will hold the pressure." When he was free of the suit, he had me smooth out a portion of the back, then, as he snatched his hand away, I slapped the suit down over the leak. Konski promptly sat on it. "There," he said happily, "we've got it corked. Nothing to do but wait." I started to ask him why he hadn't just sat down on the leak while wearing the suit; then I realized that the seat of the suit was corrugated with insulation-he needed a smooth piece to seal on to the sticky stuff left by the balloons. "Let me see your hand," Knowles demanded. "It's nothing much." But Knowles examined it anyway. I looked at it and got a little sick. He had a mark like a stigma on the palm, a bloody, oozing wound. Knowles made a compress of his handkerchief and then used mine to tie it in place. "Thank you, gentlemen," Konski told us, then added, "we've got time to kill. How about a little pinochle?" "With your cards?" asked Knowles. "Why, Mr. Knowles! Well-never mind. It isn't right for paymasters to gamble anyhow. Speaking of paymasters, you realize this is pressure work now, Mr. Knowles?" "For a pound and four tenths differential?" "I'm sure the union would take that view-in the circumstances." "Suppose I sit on the leak?" "But the rate applies to helpers, too." "Okay, miser-triple-time it is." "That's more like your own sweet nature, Mr. Knowles. I hope it's a nice long wait." "How long a wait do you think it will be, Fatso?" "Well, it shouldn't take them more than an hour, even if they have to come all the way from Richardson." "Hmm ... what makes you think they will be looking for us?" "Huh? Doesn't your office know where you are?" "I'm afraid not. I told them I wouldn't be back today." Konski thought about it. "I didn't drop my time card. They'll know I'm still inside." "Sure they will-tomorrow, when your card doesn't show up at my office." "There's that lunkhead on the gate. He'll know he's got three extra inside." "Provided he remembers to tell his relief. And provided he wasn't caught in it, too." "Yes, I guess so," Konski said thoughtfully. "Jack-better quit pumping that light. You just use up more oxygen." We sat there in the darkness for quite a long time, speculating about what had happened. Konski was sure it was an explosion; Knowles said that it put him in mind of a time when he had seen a freight rocket crash on take off. When the talk started to die out, Konski told some stories. I tried to tell one, but I was so nervous-so afraid, I should say-that I couldn't remember the snapper. I wanted to scream. After a long silence Konski said, "Jack, give us the light

again. I got something figured out." "What is it?" Knowles asked. "If we had a patch, you could put on my suit and go for help." "There's no oxygen for the suit." "That's why I mentioned you. You're the smallest-there'll be enough air in the suit itself to take you through the next section." "Well-okay. What are you going to use for a patch?" "I'm sitting on it." "Huh?" "This big broad, round thing I'm sitting on. I'll take my pants off. If I push one of my hams against that hole, I'll guarantee you it'll be sealed tight." "But-No, Fats, it won't do. Look what happened to your hand. You'd hemorrhage through your skin and bleed to death before I could get back." "I'll give you two to one I wouldn't-for fifty, say." "If I win, how do I collect?" "You're a cute one, Mr. Knowles. But look-I've got two or three inches of fat padding me. I won't bleed much-a strawberry mark, no more." Knowles shook his head. "It's not necessary. If we keep quiet, there's air enough here for several days." "It's not the air, Mr. Knowles. Noticed it's getting chilly?" I had noticed, but hadn't thought about it. In my misery and funk being cold didn't seem anything more than appropriate. Now I thought about it. When we lost the power line, we lost the heaters, too. It would keep getting colder and colder ... and colder. Mr. Knowles saw it, too. "Okay, Fats. Let's get on with it." I sat on the suit while Konski got ready. After he got his pants off he snagged one of the tag-alongs, burst it, and smeared the sticky insides on his right buttock. Then he turned to me. "Okay, kid-up off the nest." We made the swap-over fast, without losing much air, though the leak hissed angrily. "Comfortable as an easy chair, folks." He grinned. Knowles hurried into the suit and left, taking the light with him. We were in darkness again. After a while, I heard Konski's voice. "There a game we can play in the dark, Jack. You play chess?" "Why, yes-play at it, that is." "A good game. Used to play it in the decompression chamber when I was working under the Hudson. What do you say to twenty on a side, just to make it fun?" "Uh? Well, all right." He could have made it a thousand; I didn't care. "Fine. King's pawn to king three." "Uh-king's pawn to king's four." "Conventional, aren't you? Puts me in mind of a girl I knew in Hoboken--" What he told about her bad nothing to do with chess, although it did prove she was conventional, in a manner of speaking. "King's bishop to queen's bishop four. Remind me to tell you about her sister, too. Seems she hadn't always been a redhead, but she wanted people to think so. So she-sorry. Go ahead with your move." I tried to think but my head was spinning. "Queen's pawn to queen three." "Queen to king's bishop three. Anyhow, she--" He went on in great detail. It wasn't new and I doubt if it ever happened to him, but it cheered me up. I actually smiled, there in the dark. "It's your move," he added. "Oh." I couldn't remember the board. I decided to get ready to castle, always fairly safe in the early game. "Queen's knight to

queen's bishop three." "Queen advances to capture your king's bishop's pawn-checkmate. You owe me twenty, Jack." "Huh? Why that can't be!" "Want to run over the moves?" He checked them off. I managed to visualize them, then said, "Why, I'll be a dirty name! You hooked me with a fool's mate!" He chuckled. "You should have kept your eye on my queen instead of on the redhead." I laughed out loud. "Know any more stories?" "Sure." He told another. But when I urged him to go on, he said, "I think I'll just rest a little while, Jack." I got up. "You all right, Fats?" He didn't answer; I felt my way over to him in the dark. His face was cold and he didn't speak when I touched him. I could hear his heart faintly when I pressed an ear to his chest, but his hands and feet were like ice. I had to pull him loose; he was frozen to the spot. I could feel the ice, though I knew it must be blood. I started to try to revive him by rubbing him, but the hissing of the leak brought me up short. I tore off my own trousers, had a panicky time before I found the exact spot in the dark, and sat down on it, with my right buttock pressed firmly against the opening. It grabbed me like a suction cup, icy cold. Then it was fire spreading through my flesh. After a time I couldn't feel anything at all, except a dull ache and coldness. There was a light someplace. It flickered on, then went out again. I heard a door clang. I started to shout. "Knowles!" I Screamed. "Mr. Knowles!" The light flickered on again. "Coming, Jack--" I started to blubber. "Oh, you made it! You made it." "I didn't make it, Jack. I couldn't reach the next section. When I got back to the lock I passed out." He stopped to wheeze. "There's a crater--" The light flickered off and fell clanging to the floor. "Help me, Jack," he said querulously. "Can't you see I need help? I tried to--" I heard him stumble and fall. I called to him, but he didn't answer. I tried to get up, but I was stuck fast, a cork in a bottle . . .

I came to, lying face down-with a clean sheet under me. "Feeling better?" someone asked. It was Knowles, standing by my bed, dressed in a bathrobe. "You're dead," I told him. "Not a bit." He grinned. "They got to us in time." "What happened?" I stared at him, still not believing my eyes. "Just like we thought-a crashed rocket. An unmanned mail rocket got out of control and hit the tunnel." "Where's Fats?" "Hi!" I twisted my head around; it was Konski, face down like myself. "You owe me twenty," he said cheerfully. "I owe you--" I found I was dripping tears for no good reason. "Okay, I owe you twenty. But you'll have to come to Des Moines to collect it."